02

Wireless Microphones

Since their first introduction in 1974, Sony has been continuously developing a wide range of wireless microphone systems to offer superb audio performance, highly stable transmission and flexible simultaneous multi-channel operation. Nowadays, it can be clearly seen that the industry is migrating from Standard Definition (SD) to High Definition (HD) for video production, as well as from analogue to digital for sound production. This trend naturally boosts the need for higher-quality digital technology in wireless microphone systems.

Digital Wireless Microphones Product Range

With the introduction of a new fully digital wireless microphone system, Sony has made a breakthrough in the history of wireless microphone technology. Comprising of the DWT-B01 bodypack transmitter, DWR-S01D slot-in type two-channel receiver and DWA-01D adapter, the system provides excellent quality digital wireless audio transmission, large-scale, multi-channel operation and enhanced system flexibility – a perfect match for high-quality ENG/EFP applications*1. Transmission of excellent quality 24-bit/48kHz sampling digital audio signals is realised on the DWT-B01 transmitter. The audio codec used in the system was developed specifically for wireless audio transmission, enabling the low-latency, secure and reliable operation that is mandatory for quality-critical applications.

In addition, the system allows for an increase of up to 60%*2 in the number of simultaneous digital wireless systems in use compared to conventional analogue wireless systems, which gives users enhanced system flexibility. Furthermore, the system offers a metadata-handling capability that provides highly innovative full-wireless remote operations between the transmitter and receiver, dramatically improving operational efficiency. With its excellent audio quality, system flexibility and operational efficiency, the Sony digital wireless microphone system opens up a whole new world of professional audio applications.

*1 The digital wireless microphone system is not available in some countries.
*2 When operating on an 8MHz bandwidth TV channel in Europe.

System Features

Superb Quality Wireless Transmission

The digital wireless microphone system transmits high-quality 24-bit/48kHz sampling digital audio signals in a specific frequency bandwidth that meets the wireless communication regulations of each country. Utilising an original Sony codec, based on Sony's many years of experience in engineering audio products, the system delivers a wide dynamic range of more than 106dB, a wide frequency response of 20Hz to 20kHz and an excellent system latency of 3.6 ms.

Simultaneous Multi-channel Operation

The digital wireless microphone system allows for large-scale multi-channel operations. Thanks to the newly developed digital modulator, the system realises an intermodulation-free, equally spaced channel allocation. The digital wireless transmission technology used in this system enables a significant increase in the number of simultaneous digital wireless systems in comparison with current analogue wireless systems. For example, up to 16 channels of simultaneous operation is possible in an 8MHz bandwidth TV channel in Europe. This system also provides the option of using existing WL-800 Series channel plans. In this configuration, the digital wireless system reliably operates alongside the WL-800 Series analogue wireless systems, without concern for having analogue and digital wireless systems interfering with each other.

Stable and Secure Transmission

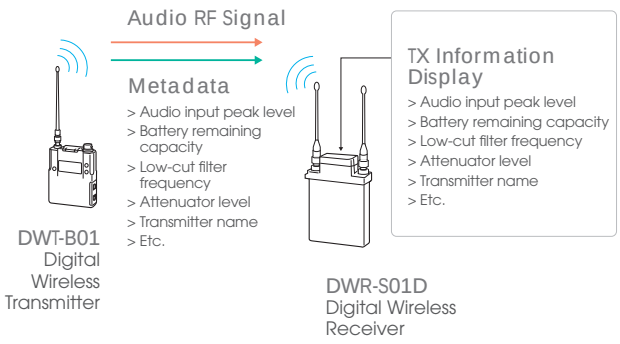
Incorporating a newly developed digital modulator, the digital wireless microphone system allows highly stable and secure wireless transmission that is extremely tolerant to RF interference. The system transmits digitally modulated and encrypted data to minimise the risk of interception, providing highly secure transmission. For secure and confidential communication, the system provides two communication modes: peer-to-peer mode and password mode. In peer-to-peer mode, wireless communication between a DWT-B01 transmitter and DWR-S01D receiver can be established by exchanging an encryption key that is generated by the transmitter. In password mode, multiple transmitters and receivers can be configured by setting all devices with the same user-designated password. In addition, this mode supports broadcast communication, which enables multiple receivers to receive audio signals from one transmitter.

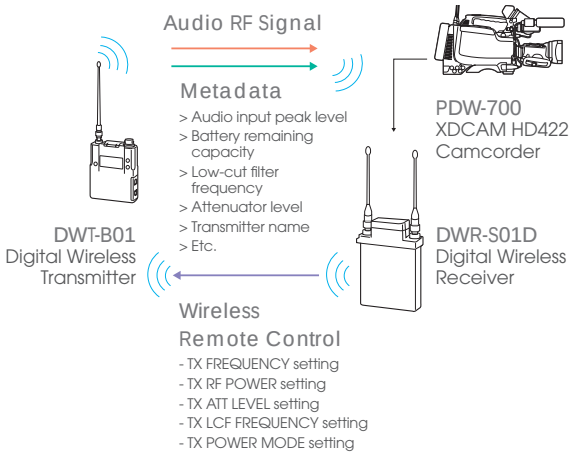
Pre-programmed Frequency Groups

To make it easy to choose the correct frequencies for simultaneous multi-channel operation, the optimum intermodulation-free frequencies are stored on each DWR-S01D receiver. These frequencies – all of which have been calculated and tested – are arranged in groups, with each group pre-programmed to allow interference-free operation. The digital wireless microphone system operates within the following frequency ranges:

Frequency range		
DWT-B01 transmitter	CE6267	798 to 822MHz (TV 62 to 64 channels) 838 to 862MHz (TV 67 to 69 channels)
DWR-S01D receiver	CE62	798 to 822MHz (TV 62 to 64 channels)
	CE67	838 to 862MHz (TV 67 to 69 channels)

* The DWR-S01D receiver supports a 24MHz band RF carrier frequency range. When using the DWR-S01D receiver in either the 798 to 822MHz (TV 62 to 64 channels) or 838 to 862MHz (TV 67 to 69 channels) frequency range, please contact your nearest Sony office or authorised dealer.





Metadata Transmission

In addition to audio signals, a variety of information about the DWT-B01 transmitter – such as audio input peak level, remaining battery capacity, low-cut filter frequency and attenuator level – can be wirelessly transmitted to the DWR-S01 receiver as metadata. This allows users to monitor the status of the transmitter from the DWR-S01D receiver, offering high operational convenience.

Innovative Wireless Remote Control

Wireless remote control capability of the Sony digital wireless microphone system is one of the most distinctive user features that digital transmission technology has made possible.

A variety of DWT-B01 transmitter settings – such as power on/sleep, attenuator level, low-cut filter frequency and RF power output level – can be wirelessly controlled from the DWR-S01D receiver. This is highly convenient because setting changes can be made very easily even after the transmitters are attached to an actor or reporter.

Furthermore, when the DWR-S01 receiver is used with the PDW-700 XDCAM HD422 camcorder, users can monitor the status of the digital wireless microphone system through the camcorder's viewfinder. They can also wirelessly control the settings of the DWT-B01 transmitter via the camcorder menu. This wireless control makes use of 2.4GHz IEEE802.15.4 communication technology, which is commonly available worldwide. Communicating via this wireless remote technology in no way affects the audio or RF signals of either the digital or analogue wireless microphone systems. In addition, it is ideal for large-scale multi-channel system management and is effective for low-power consumption.

Easy-to-see, Full Dot-matrix OLED (Organic Light-Emitting Diode) Display

The DWT-B01 transmitter and DWR-S01D receiver have an easy-to-see OLED display, providing a variety of information such as operating channel/frequency, AF input level, RF output level and battery status. The quick response of the OLED display enables real-time operating conditions, such as the audio level-meter, to be displayed clearly and accurately. In addition, the OLED provides a high-level of visibility even in low-temperature or low-light environments.

USB Interface

The DWT-B01 transmitter and DWR-S01D receiver come equipped with a USB interface. This is used to connect a USB keyboard, from which users can easily change a variety of settings. In addition, by connecting the transmitter and receiver directly to each other via the supplied USB cable, the encryption keys required for confidential peer-to-peer communication can be exchanged manually or automatically.

DWT-B01/DWT-P01

Digital Wireless Transmitters

Features

Wide RF Carrier Frequency Range

The DWT-B01/DWT-P01 transmitters cover an extremely wide RF carrier frequency range; much wider than the 24MHz band of the analogue wireless microphone system. The CE6267 models can cover a 48MHz band*1. This remarkably wide coverage on a single model offers cost-efficiency and operational convenience because it allows one transmitter to be operated in many different countries.

*1 The DWR-S01D receiver supports a 24MHz band RF carrier frequency range. 798 to 822MHz (TV 62 to 64 channels) and 838 to 862MHz (TV 67 to 69 channels)

Selectable RF Output Power (1/10/50 mW)

The DWT-B01/DWT-P01 transmitters provide a choice of RF output powers. The 1 and 10 mW output is suitable for multi-channel operations such as theatre and studio productions, while the 50 mW output is intended for long distance transmissions such as sports and news coverage.

Power Sleep Mode

The DWT-B01/DWT-P01 transmitters are equipped with a power sleep/wake up mode that can be wirelessly controlled from the DWR-S01D receiver. Wherever they are attached – for example, inside an actor's costume – the operator can remotely control the transmitter's power on and sleep settings, increasing operational convenience and battery savings.

Digital Low-cut Filter

Equipped with a digital low-cut filter, the DWT-B01/DWT-P01 transmitters can reduce the effects of undesired ambient noise.

Accommodates Various Types of Battery

The DWT-B01/DWT-P01 transmitters can be operated with either alkaline, lithium, or nickel-metal hydride batteries. The transmitters will operate continuously for approximately four* hours when using two Sony AA-size alkaline batteries at 25 °C (77 °F) and 10 mW output power.

* The operating time may vary depending on the operational environment.

OLED Screen

USB Interface

DWT-B01

DWT-P01

Lightweight and Rugged Design

The DWT-B01/DWT-P01 transmitters are designed to be extremely compact and lightweight, essential qualities for users in fast-moving TV and outdoor productions. The DWT-B01 measures 63 x 73 x 17 mm and weighs just 125 g including batteries. The DWT-P01 measures 44 x 78 x 44 mm (excluding XLR) and weighs 245 g (9 oz) including batteries. In addition, the robust die-cast magnesium body allows the DWT-B01/DWT-P01 transmitters to withstand even the harshest of operational environments.

Switchable Mic or Line Input Level and Adjustable Attenuator

The audio input level of the DWT-B01/DWT-P01 transmitters is selectable from either MIC or LINE. When MIC is selected, the attenuator can be adjusted in 3dB steps from 0dB to 48dB. The reference input level of the MIC and LINE is -58dBu (-60dBV) and +4dBu, respectively.

48 V Microphone Power

DWT-P01 (only) via XLR connector.

DWR-S01D

Digital Wireless Receiver

Features

Industry-first Two-channel Slot-in Wireless Receiver

The DWR-S01D is an industry-first two-channel digital wireless receiver that offers an ideal solution for high-quality ENG and EFP applications. Despite its dual channel receiver capability, the DWR-S01D receiver is small enough to be mounted directly in the slot of the Sony PDW-700 XDCAM HD422 camcorder, maintaining the well-balanced design and compactness of the camcorder. Through the direct mount, high-quality digital audio transmitted from a DWT-B01 transmitter can be recorded directly to the camcorder via a D-sub 15-pin interface without the need for any signal conversions.

Rear Mounting to Camcorders

In addition to the slot-in capability for the PDW-700 XDCAM HD422 camcorder, the DWR-S01D receiver can be rear-mounted to a range of Sony professional camcorders – such as the HDCAM, XDCAM, XDCAM HD, Digital Betacam and MPEG IMX Series camcorders – using the DWA-01D adapter. When used with a camcorder that has AES/EBU inputs, full-digital audio recording is also possible.

Compact, Lightweight and Rugged Design

Despite having a number of stunning functionalities, such as its dual-channel receiver capability, the DWR-S01D is still highly compact and lightweight – just like the existing analogue, single-channel wireless receiver WRR-855S/855B. It measures only 88 x 117.8 x 31.3 mm and weighs just 280 g (9 oz), maintaining good balance even when mounted on a camcorder. In addition, the DWR-S01D is made of magnesium diecast and aluminium, making it extremely rugged and suitable for the harsh environments of even the most demanding ENG/EFP applications.

Auto-channel Scanning Functions

The DWR-S01D receiver comes with two auto-channel scanning functions that allow for fast, easy and safe frequency channel changes. Clear Scan mode automatically seeks unoccupied channels, from which operators can select the most appropriate channel to use. While Active Channel mode searches for channels that are currently in use, allowing operators to check whether the channel is used by a transmitter in the same operational group or by other equipment that may interfere with the digital wireless transmission signal.

Wireless Remote Control

The wireless remote control is an extremely efficient feature that enables the DWR-S01D receiver to control various settings of the DWT-B01 transmitter such as power on/off, attenuator level, low-cut filter frequency and RF power output level.

OLED Screen

USB Interface

DWA-01D

Digital Wireless Adapter

Features

Camcorder Rear-mount Operation*1

The DWA-01D adapter allows the DWR-S01D receiver to be rear-mounted on a range of Sony professional camcorders, such as HDCAM, XDCAM, XDCAM HD, Digital Betacam and MPEG IMX camcorders. In addition, the DWA-01D adapter can be used with the current analogue wireless receiver WRR-855S/855B.*2

*1 Requires an optional mount bracket (A-8278-057B).
*2 Output from the DWA-01D and WRR-855S/855B is one-channel analogue audio signal only.

Stand-alone Wireless Receiver Operation

In addition to camcorder mounting, the DWR-S01D receiver with DWA-01D adapter can also work as a stand-alone wireless receiver.*1 This, in combination with a digital audio mixer such as the Sony DMX-P01, creates a compact, portable, EFP digital wireless microphone system.

*1 Requires DC power supply from a connected unit via a 4-pin connector.

Wide Array of Interfaces

The DWA-01D adapter comes equipped with a wide range of interfaces optimised for diverse operational needs:

- SMC9-4S (Sony 4-pin) (x2): Outputs either AES/EBU or analogue audio signals
- Word Sync input: Allows the digital wireless microphone system to synchronise with an external word sync signal
- Stereo headphone output: Offers easy monitoring of the output sound (switchable between Tuner 1/Tuner 2/Mixed)

Unique Lock-together Mechanism

The DWA-01D adapter is equipped with a connecting bracket that allows two DWA-01D adapters to be easily combined. This is particularly convenient for when two pairs of the DWR-S01D receiver and DWA-01D adapter are used at the same time as a stand-alone four-channel receiver system.

Optional Accessories / Specifications

ECM-88BC
Lavalier Microphone

ECM-322BC
Headset Microphone

ECM-77BC
Lavalier Microphone

F-112
Dynamic Microphone

ECM-66BC
Lavalier Microphone

DMX-P01
Digital Portable Mixer

ECM-44BC
Lavalier Microphone

A-8278-057-B
Mounting Bracket

System specifications

Sampling frequency		48 kHz
Quantisation bit length		24-bit
Reference input level (at 0dB audio)	MIC	-58 dBu, 1 kHz (-60 dBV, 1 kHz)
	LINE	+4 dBu, 1 kHz
Reference output level	Analogue output	-58 dBu
	AES/EBU output	-36 dBFs/-20 dBFS switchable
Maximum output level	Analogue output	-22 dBu
	AES/EBU output	0 dBFs
Frequency response		20 Hz to 20 kHz
Dynamic range		106 dB typical (A-weighted, T.H.D = 1%)
Distortion (T.H.D)		0.03% or less
Modulation method		p/4 Shift QPSK
Audio delay		3.6 ms
Remote control		2.4 GHz IEEE802.15.4 compliant
USB		USB 2.0 compliant

Specifications

DWT-B01

TRANSMITTING SECTION

Oscillator		Crystal controlled PLL synthesiser
Carrier frequency range CE6267		798 to 822MHz (TV 62 to 64 channels) 838 to 862MHz (TV 67 to 69 channels)
Channel step		25kHz
RF power output		1 mW/10 mW/50 mW (e.r.p.) selectable
Occupied RF bandwidth		192kHz
Audio delay		1.5 ms

AUDIO SECTION

Maximum input level	MIC	-22dBu (with 0dB attenuator)
	LINE	+24dBu
Audio attenuator adjustment range (pad)		0 to 48dB (3-dB steps, MIC input mode only)
Input connector		Sony 4-pin (SMC9-4S) (x1)
Input impedance		4 kΩ or more

GENERAL

Operating voltage	DC 3.0 V, (two LR6 AA-size alkaline batteries)
Battery life	Approx. 3.5 hours at 10 mW output (at 25 °C (77 °F)), with Sony LR6 AA-size alkaline batteries)
Dimensions (W x H x D)	Approx. 63 x 73 x 17 mm excluding projection
Mass	Approx. 125 g including batteries
Supplied accessories	Soft case (x1), Spare battery case (x1), Microphone cable (4-pin to XLR-3-pin) (x1), USB adapter cable (x1), USB cable (x1), Carrying case (x1), Frequency list (x1), Operating instructions (x1)

DWT-P01

TRANSMITTING SECTION

Oscillator		Crystal controlled PLL synthesiser
Carrier frequency range CE6267		798 to 822MHz (TV 62 to 64 channels) 838 to 862MHz (TV 67 to 69 channels)
Channel step		25kHz
RF power output		1 mW/10 mW/50 mW (e.r.p.) selectable
Occupied RF bandwidth		192kHz
Audio delay		1.5 ms

AUDIO SECTION

Maximum input level	MIC	-22dBu (with 0dB attenuator)
	LINE	+24dBu
Audio attenuator adjustment range (pad)		0 to 48dB (3-dB steps, MIC input mode only)
Input connector		XLR-3-11C (female) (x1)
Input impedance		4 kΩ or more

GENERAL

Operating voltage	DC 3.0 V, (two LR6 AA-size alkaline batteries)
Battery life	Approx. 3.5 hours at 10 mW output (at 25 °C (77 °F)), with Sony LR6 AA-size alkaline batteries)
Dimensions (W x H x D)	Approx. 44 x 78x 44 mm excluding projection
Mass	Approx. 245 g including batteries
Supplied accessories	Soft case (x1), Spare battery case (x1), USB adapter cable (x1), USB cable (x1), Operating instructions (x1)

DWR-S01D

TUNER SECTION

Type of reception		Space diversity
Circuit system		Dual conversion superheterodyne
Receiving frequency range*1	CE62	798 to 822 MHz (TV 62 to 64 channels)
	CE67	838 to 862 MHz (TV 67 to 69 channels)
Channel step	CE62/CE67	25 kHz
Local oscillators		PLL synthesiser
RF input terminal		BNC-R, 50
Sensitivity		20 dBμ or less (at bit error rate=1 x 10^{-5})
Audio delay		2.1 ms

AUDIO SECTION

Audio output connector	D-sub 15-pin (x1)

GENERAL

Dimensions (W x H x D) excluding projection	Approx. 88 x 117.8 x 31.3 mm
Mass	Approx. 280 g
Supplied accessories	Whip antenna (x2), USB cable adapter (x1), USB cable (x1), Frequency list (x1), Operating instructions (x1)

DWA-01D

AUDIO SECTION

Output connector	Sony 4-pin (SMC9-4S) (x2) (OUTPUT1, OUTPUT2)
Analogue audio output impedance	150 Ω or less
AES/EBU audio output impedance	150 Ω
Monitor output connector	Ø 3.5 mm stereo mini-jack
Monitor output level	5 mW (at 16 Ω load, T.H.D=1%)

GENERAL

Power requirements	DC 12 V
Operating voltage	DC 3.6 to 17 V
Dimensions (W x H x D)	Approx. 88 x 138 x 31.5 mm excluding projection
Mass	Approx. 250 g
Supplied accessories	Audio cable (x2), DC cable (x1), Mount plate kit (x1), Operating instructions (x1)

*1 The DWR-S01D receiver supports a 24MHz band RF carrier frequency range. When using the DWR-S01D receiver in either the 590.125 to 607.875MHz (TV 34 to 36 channels), 614.125 to 637.875MHz (TV 38 to 41 channels) or 662.125 to 697.875MHz (TV 46 to 51 channels) frequency range, please contact your nearest Sony office or authorised dealers.

Analogue Wireless Microphone Product Range

Since its introduction, the unique qualities of the Sony WL-800 Series UHF synthesised wireless microphone system have been proven in many different applications. It has been particularly successful in critical applications such as broadcasting and production, where its low-noise, wide audio dynamic range, stable RF transmission/reception and high reliability have been vital factors.
Sony has continually enhanced its WL-800 Series to fulfil the ever increasing needs for wireless operations.

Offering a broad range of choices, this family presents a solution to virtually any wireless microphone application from the very simple to the most sophisticated.
Such applications include ENG and EFP location, conference and entertainment, TV studio production, theatre and live performance to name just a few. A variety of options are also made available so that systems are established to suit different operational needs.

Sony Wireless Microphone Common Features

PLL Synthesised System

Phase Locked Loop (PLL) frequency synthesised systems are employed both in transmitters and receivers, assuring carrier stability and providing easy access to multiple frequencies. These PLL controlled systems provide highly stable, selectable frequencies to be generated in increments of 125kHz.

Space Diversity Reception System

A space diversity reception system is used to eliminate signal dropout. Dual antenna inputs and reception circuits incorporated in the diversity system receive signals over two different paths and select the stronger signal as the output. This switching operation is undetectable on the audio output of the receivers.

Pre-programmed Frequency Groups

Optimum combinations of calculated and practically tested intermodulation-free frequencies are stored in each receiver to make it easy to choose the correct frequencies for simultaneous multi-channel operation. These frequencies are arranged in groups, with each group pre-programmed to allow interference-free operation.

Advanced Filtering

The Sony wireless units all employ Helical, Ceramic and/or SAW (Surface Acoustic Wave) filters as appropriate. This offers stable reception and superb audio quality and also enables the unique miniaturisation seen in most Sony products.

Tone Squelch Circuitry

The wireless microphone transmitters also transmit a 32.768kHz pilot-tone signal along with the audio signal. In the receivers, a squelch circuit is present and the audio signal is only output when the tone signal has been correctly received. This squelch function is designed to virtually prevent the output of unwanted signals or noise from other signal transmissions in the air, as well as the RF noise and popping noise that occur when the transmitter is powered on or off.

Compander System for Wide Dynamic Range and Low-noise

A compander (compressor/expander) system is included for improved audio dynamic range, low-noise and interference. The time constants for attack and release times are carefully chosen in the various transmitters to match the application, ensuring minimised noise level while providing smooth and superior audio quality.

Multiple Information on Easy-to-read LCD and LED

Most receivers and transmitters feature easy-to-read LCD panel and LED indicators, which provide extensive information on the operating conditions. Most receivers will display the RF input level, audio output status, current channel number/frequency and battery status of the transmitter. Most transmitters do, in essence, have the same information available in the receivers, such as audio input and RF output status, current channel number/frequency, input attenuation setting and accumulated battery operating time.

Remote Battery Alarm on Receiver

For added assurance of continued operation, users can monitor the battery reserves of handheld, body pack and plug-on transmitters. Remaining battery life is indicated on both the transmitter and receiver, with additional indication approximate one hour*1 before the battery goes dead. On the receiver, the battery indicator on the LCD and LED displays also flash, helping to avoid the chance of battery failure at a critical moment.

*1 This may vary depending on the operational environment.

Consistent RF Power Output

A DC-DC convert circuit built into the power supply section of microphones/transmitters assures consistent output power over the life of the batteries.

Channel Setting Back-up

Each unit has a convenient memory back-up for storing operating frequencies. When the power switch is turned on, the previous channel setting is automatically recalled and displayed.

WRT-8B

UHF Synthesised
Transmitter

Features

- >Ultra-compact and lightweight: 140 g including batteries
- >Selectable RF power output: 50 mW output for long distance transmission or 10 mW output for multi-channel simultaneous operation
- >Switchable input level (LINE or MIC level) and attenuator level control knob
- >SMA-J type, removable antenna
- >Approximately 13 hours of continuous operation with two AA-size alkaline (LR6) batteries at 10 mW output
- >Accepts the output of professional lavalier microphones equipped with a Sony 4-pin connector (SMC9-4P)

WRT-822B

UHF Synthesised
Transmitter

Features

- >Approximately six hours of continuous operation with two AA-size (LR6) alkaline batteries
- >Compact, lightweight, magnesium alloy body
- >20 mW RF power output
- >Accepts the output of professional lavalier microphones equipped with a Sony 4-pin connector (SMC9-4P)

WRT-847B

UHF Synthesised
Transmitter Unit

Features

- >Five optional microphone capsules are available, providing a choice of characteristics that suit a range of different applications. Microphone capsules are available individually. (One head is required for the WRT-847B to function.)
- >Audio compander time constant is switchable to suit different capsules
- >Selectable RF output level: 10 mW for simultaneous multi-channel operation and 50 mW for long distance operation
- >Audio gain and attenuation setting from +9dB to -12dB in 3dB steps
- >Lockable external power switch (ON/OFF)
- >Two AA-size (LR6) alkaline batteries provide approximately eight hours of continuous operation

WRT-807B

UHF Synthesised
Transmitter Unit

Features

- >A high quality dynamic CCAW voice coil with AlNiCO magnet is used in the WRT-807B, providing a super cardioid response
- >The use of a precision synthesiser PLL provides the combination of reliable RF transmission with pre-programmed operating frequencies
- >The WRT-807B's LCD display and set-up switches provide a simple to use control interface. The display lockout mode and the locking on/off switch greatly reduces the risk of mis-operation
- >The WRT-807A offers 5 hours of operating life from a single AA battery. This is achieved by utilising a specialised DC to DC converter to provide stable performance throughout the active life of the batteries. This is especially important in maintaining good RF transmission

CU-F780

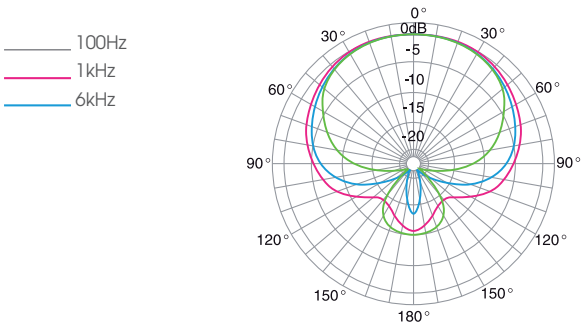
Capsule Unit

Features

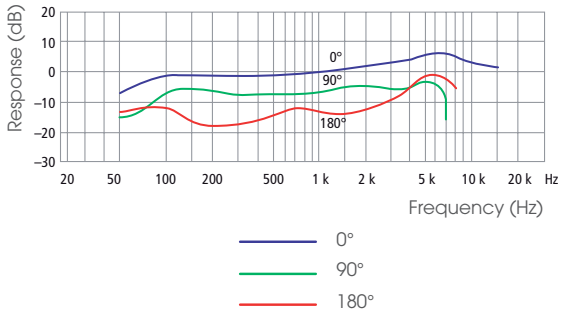
- Dynamic microphone capsule with super cardioid polar pattern
- Uses the same high-quality edgewise winding CCAW voice coil that is employed in the acclaimed Sony F-780 wired microphone
- Designed for vocal applications including live music performance
- Frequency response: 50Hz to 18kHz
- Dimensions: Ø 51 x 90 mm (Ø 2 1/8 x 3 5/8 inches)
- Mass: 180 g (6.3 oz)

Characteristics

Directivity Characteristics



Frequency Response Characteristics



CU-E700

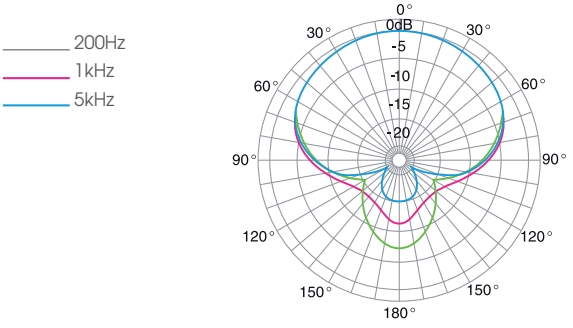
Capsule Unit

Features

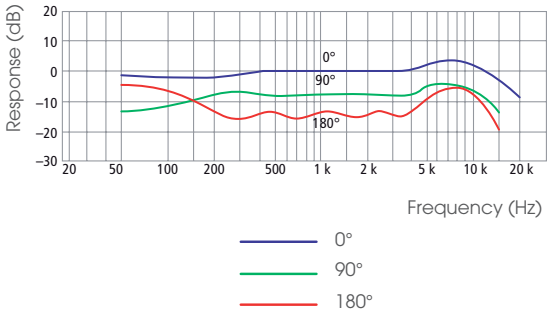
- Electret condenser microphone capsule with super cardioid polar pattern
- Smooth frequency response for natural sound reproduction
- Suitable for critical vocal and speech applications
- Frequency response: 50Hz to 18kHz
- Max. SPL: 150dB
- Dimensions: Ø 51 x 98 mm (Ø 2 1/8 x 3 7/8 inches)
- Mass: 170 g (6.0 oz)

Characteristics

Directivity Characteristics



Frequency Response Characteristics



CU-E672

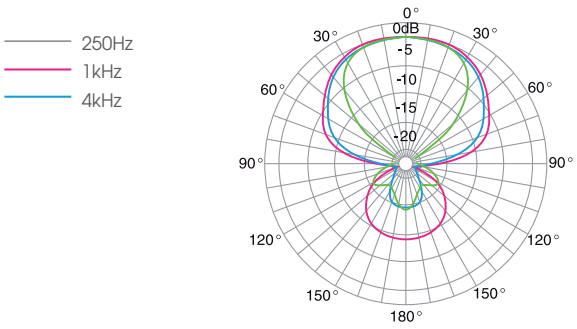
Capsule Unit

Features

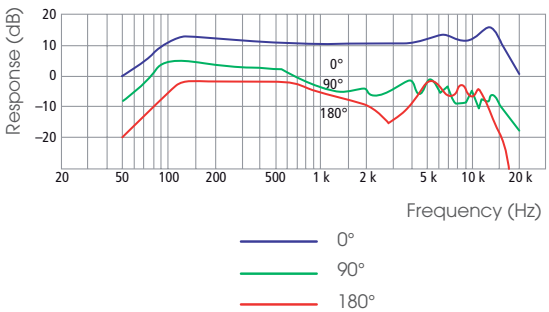
- >Electret condenser microphone capsule with hyper cardioid polar pattern
- >A wide variety of applications in news gathering, sports events and interviews
- >The supplied windscreen reduces wind noise and popping
- >Frequency response: 50Hz to 16kHz
- >Max. SPL: 120dB
- >Dimensions: Ø 37 x 172 mm (Ø 1 1/2 x 6 7/8 inches)
- >Mass: 150 g (5.3 oz)
- >Supplied accessory: Urethane windscreen (1)

Characteristics

Directivity Characteristics



Frequency Response Characteristics



CU-F117

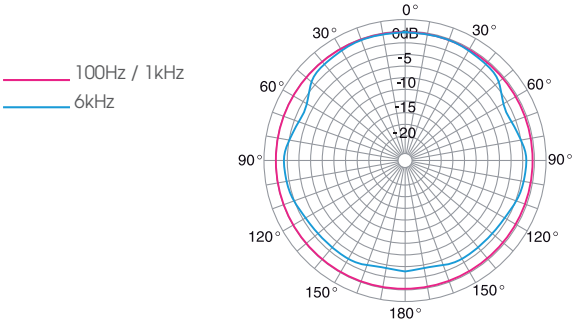
Capsule Unit

Features

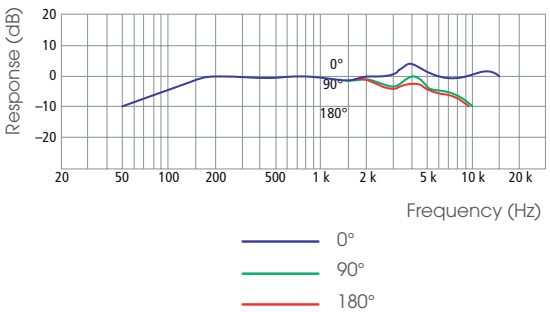
- >Dynamic microphone capsule with omni-directional polar pattern
- >Superb rejection of wind noise and popping
- >Designed for interview applications
- >Frequency response: 50Hz to 15kHz
- >Dimensions: Ø 44 x 105 mm (Ø 1 3/4 x 4 1/4 inches)
- >Mass: 170 g (6.0 oz)
- >Supplied accessory: Urethane windscreen (1)

Characteristics

Directivity Characteristics



Frequency Response Characteristics



WRR-862B

UHF Synthesised Dual Diversity Tuner

Features

- Receives two independent RF signals simultaneously on two separate channels
- Compact and lightweight: 400 g (14.1 oz) including batteries
- Two way powering: Internal battery operation or operation on external power from Sony camcorders via the supplied cable
- A red LED starts flashing approximately one* hour before the transmitter's battery is exhausted
- Two Sony 4-pin (SMC9-4S) audio output connectors are provided on the top panel
- Switchable RF squelch levels: ON (5dBμ, 10dBμ, 15dBμ) or OFF
- Stereo mini-jack for monitoring the output sound (switchable: Tuner 1/Tuner 2/Mixed) with headphones
- Monitor volume control provided

*This time may vary depending on the operational environment.

WRR-855S

UHF Synthesised Diversity Tuner

Features

- Space Diversity Tuner for camcorder use
- Easily mounts onto Sony HDCAM/Digital Betacam/ XDCAM/MPEG IMX camcorders without need for audio/ power cables or a mounting adapter
- Compact and lightweight design: 280 g (11 oz)
- A D-sub 15-pin connector for audio output to a Sony professional camcorder and for receiving its power supply from the camcorder
- A LCD provides various information such as RF input level and audio output status

BTA-801

Portable Tuner Mount Adapter

Features

- Allows a WRR-855S/855B portable tuner to be mounted on a Sony professional camcorder
- External DC power input via the supplied 4-pin cable

A-8278-057-A

Mounting Bracket

Features

- For mounting any Sony portable tuner to Sony professional camcorders which operate on Sony Lithium-Ion battery packs

MB-8N

Tuner Base Unit

Features

- Accommodates up to four WRU-8N tuner modules in a 1U high, rack-mountable chassis
- Built-in antenna-divider allows four MB-8Ns to be daisy-chained for up to 16-channel simultaneous operation without the need of an external divider.
- Control settings such as audio output levels, RF squelch levels, attenuator levels for the installed tuner modules and power supply setting (ON/OFF) for the connected AN-820A antennas are available from the front panel
- An auto-channel assignment function for extra receiver modules with self-detection and skipping of unusable channels
- A headphone monitor jack and level control knob are located on the front panel. The monitor output can be selected from individual WRU-8N tuner modules or mixed sound from all installed modules
- Computer-based remote control is also possible via a standard Ethernet (10BASE-T) connection. The supplied software allows full monitoring of the operating status and all control settings available on both the MB-8N and WRU-8N. Multi-channel settings can be stored as files

WRU-8N

UHF Synthesised Tuner Unit

Features

- Plug-in diversity tuner module for the MB-8N tuner base unit
- A jog dial allows operators to quickly choose the desired channel setting
- Pre-programmed groups for interference-free, multi-channel operation
- A red LED starts flashing approximately one* hour before the transmitter's battery is exhausted
- Precise RF squelch level setting: 10dBμ, 20dBμ, 30dBμ or OFF
- Space diversity reception for dependable RF reception

*This time may vary depending on the operational environment.

MB-X6

Tuner Base Unit

Features

- Accommodates up to six WRU-806B and UWP-X Series for up to six channels of simultaneous operation
- Addition of the WD-850A allows multi-channel operation with even more channels
- Easy mechanism for attaching and detaching tuner modules
- RF input attenuator switch (10dB/0dB)
- Balanced XLR output connector for each tuner and mix output
- Selectable output level: -58dBu (for MIC) or -20dBu (for LINE) at ±5kHz deviation at 1kHz modulation
- Auto-channel search function automatically selects unoccupied channels
- Supplied with passive antennas
- Modular, 1U high, 19 inch rack unit

WRU-806B

UHF Synthesised Tuner Unit

Features

- >Plug-in diversity receiver module for MB-X6 tuner base unit
- >Pre-programmed groups for interference-free, multi-channel operation
- >RF input status, audio output status and battery alarm indications by both LED and LCD to double check operating condition
- >Space diversity reception for dependable RF reception

WD-850A

UHF Antenna-divider

Features

- >Provides diversity output for up to four receivers/tuner base units
- >Multi-channel operation by combination with the MB-8N and WRU-8N or the MB-X6 and WRU-806B
- >Cascade output can be used for an additional antenna-divider or receiver/tuner base unit
- >Two pair of antenna input connectors for up to four AN-820A antennas to expand the operating area of a wireless microphone system

AN-820A

UHF Antenna

Features

- >Built-in RF amplifier (10dB gain)
- >Easy installation on a wall or on a microphone stand with the supplied stand adapter
- >Used in pairs for diversity reception
- >LED indication for installation check
- >External power supply provided from the MB-8N/X6 or the WD-850 via a coaxial cable

ECM-88BC
Lavalier Microphone
(for WRT-8B, WRT-822B)

ECM-77BC
Lavalier Microphone
(for WRT-8B, WRT-822B)

ECM-66BC
Lavalier Microphone
(for WRT-8B, WRT-822B)

ECM-44BC
Lavalier Microphone
(for WRT-8B, WRT-822B)

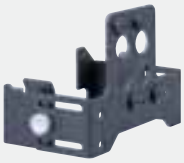
ECM-166BC
Lavalier Microphone
(for WRT-8B, WRT-822B)

ECM-322BC
Headset Microphone
(for WRT-8B, WRT-822B)

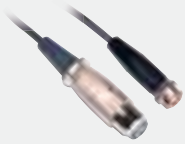
BTA-801
Portable Tuner Mount
Adapter (for WRR-855S,
WRR-855B)

DWA-O1D
Digital Wireless Adapter
(for WRR-855S, WRR-855B)

CA-WR855
Camera Adapter
(for WRR-855S, WRR-855B)



A-8278-057-B
Mounting Bracket
(for WRR-862B, WRR-855S)



EC-1.5CF
Microphone Cable
(for WRT-8B, WRR-822B)

DMX-P01
Digital Portable Mixer

Specifications

	WRT-8B	WRT-822B
Carrier frequency range	798 MHz to 822 MHz (62CE7) 838 MHz to 862 MHz (67CE7)	798 MHz to 822 MHz (62CE7) 838 MHz to 862 MHz (67CE7)
Circuit system		
Oscillator	Crystal controlled PLL synthesiser	Crystal controlled PLL synthesiser
Type of emission	F3E	F3E
RF power output	10 mW or 50 mW (e.r.p.) selectable	20 mW, (50 Ω load)
Antenna	1/4 wave length wire antenna (SMA-J type connector)	1/4 wave length wire antenna
Reference deviation	±5 kHz (-60 dBV, 1 kHz input, MIC position) ±5 kHz (-20 dBu, 1 kHz input, LINE position)	±5 kHz (-60dBV, 1kHz input)
Frequency response	40 Hz to 20 kHz (typical)	70 Hz to 15 kHz (typical)
Signal-to-noise ratio	60 dB or more (A-weighted, at reference deviation)	60 dB (A-weighted, at reference deviation)
Audio attenuator adjustment range (pad)	0 to 40 dB, continuous	0 to 21 dB, variable in 3 dB step
Max. input level	-2 dBV (1 kHz input, MIC position) +38 dBu (1 kHz input, LINE position)	-3 dBV (with 21 dB attenuator)
Input connectors	Sony 4-pin (SMC9-4S) (1)	Sony 4-pin (SMC9-4S) (1)
Operating voltage	DC 3.0 V (two LR6 AA-size alkaline batteries)	DC 3.0 V (two LR6 AA-size alkaline batteries)
Battery life (at 25 °C (77 °F), with Sony LR6 AA-size alkaline batteries)*	Approx. 6 hours at 50 mW output Approx. 13 hours at 10 mW output	DC 3.0 V (two LR6 AA-size alkaline batteries)
Dimensions (W x H x D)	63 x 83 x 17 mm (2 1/2 x 3 3/8 x 11/16 inches)	63 x 103 x 17 mm (2 1/2 x 4 1/8 x 11/16 inches)
Mass	Approx. 140 g (4.9 oz) including batteries	Approx. 145 g (5.1 oz) including batteries
Supplied accessories	Soft case (1), Spare battery case (1), Micro-phone cable (1), Operating instructions (1)	Leatherette case (1), Operating instructions (1)

* When not supplying power to the microphones.

	WRT-847B	WRT-807B
Carrier frequency range	798 MHz to 822MHz (62CE7) 838 MHz to 862MHz (67CE7)	798 MHz to 822 MHz (62CE7) 838 MHz to 862 MHz (67CE7)
Oscillator	Crystal controlled PLL synthesiser	Crystal controlled PLL synthesiser
Type of emission	F3E	F3E
RF power output	10 mW or 50 mW (e.r.p.) selectable (50 Ω load)	10 mW, (50 Ω load)
Antenna	1/4 wave length wire antenna	1/4 wave length wire antenna
Reference deviation	±5 kHz (94dB SPL, 1kHz)	±5 kHz (94dB SPL, 1kHz)
Frequency response	50 Hz to 18 kHz (typical)	50 Hz to 15kHz (typical)
Signal-to-noise ratio	60 dB or more (A-weighted, at reference deviation)	60 dB or more (A-weighted, at reference deviation)
Audio attenuator adjustment range (pad)	-12 dB to +9 dB variable in 3 dB steps	0 to 21 dB, variable in 3 dB steps
Max. input sound pressure level	142 dB SPL (with CU-F780/G780/E700/F117 at audio gain -12 dB) 120 dB SPL (with CU-E672)	151dB SPL (with 21dB attenuator)
Microphone capsule	Interchangeable (Optional)	Dynamic
Directivity		Uni-directional
Operating voltage	DC 3.0 V (two LR6 AA-size alkaline batteries)	DC 1.5 V (one LR6 AA-size alkaline battery)
Battery life (at 25 °C (77 °F), with Sony LR6 AA-size alkaline batteries)	Approx. 8 hours	Approx. 5 hours
Dimensions	Ø 37 x 150 mm (Ø 1 1/2 x 6 inches)	Ø 51 x 238 mm (Ø 2 1/8 x 9 3/8 inches)
Mass	Approx. 190 g (6.7 oz) including batteries	Approx. 440 g (15.5 oz) including battery
Supplied accessories	Microphone holder (1), Stand adapter (1), Channel colour seal (1), Softcase (1), Operating instructions (1)	Microphone holder (1), Channel colour seal (1), Operating instructions (1)

	WRR-862B	WRT-822B
Receiving channels	2 channels	1 channel
Receiving frequency range	2 frequencies within 798 MHz to 822 MHz (62CE7) 2 frequencies within 838 MHz to 862 MHz (67CE7)	798 MHz to 822 MHz (62CE7) 838 MHz to 862 MHz (67CE7)
Local oscillators	1st: PLL synthesiser,	1st: PLL synthesiser,
2nd: Crystal oscillator	2nd: Crystal oscillator	2nd: PLL synthesiser
De-emphasis	50 µs	50 µs
Reference deviation	±5 kHz deviation at 1 kHz modulation (Maximum deviation: ±40 kHz deviation at 1 kHz modulation)	±5 kHz deviation at 1 kHz modulation (Maximum deviation: ±40 kHz deviation at 1 kHz modulation)
Selectivity	60 dB or more at ±250 kHz	60 dB or more at ±250 kHz
Spurious rejection	70 dB or more	80 dB or more
Frequency range	40 Hz to 18 kHz (typical)	40 Hz to 18 kHz (typical)
Signal-to-noise ratio	60 dB or more (65 dB typical) at 60 dBµ RF input at reference deviation, A-weighted	60 dB or more at 60 dBµ RF input at reference deviation, A-weighted
RF muting (squelch) level	5 dBµ, 10 dBµ, 15 dBµ or OFF	10 dBµ or OFF
Audio output level	-58 dBm at reference deviation	-40 dBu at reference deviation
Audio output connector	SMC9-4S (Sony 4-pin) (2), balanced	D-sub 15-pin (1), unbalanced
Antenna connector	BNC-R type (2), 50 Ω (nominal)	BNC-R type (2), 50 Ω (nominal)
Monitor output connector	3.5 mm dia. mini-jack, 1, 5 mW (1) Tuner 1/2/Mixed selectable	
Operating voltage	Batteries: DC 6 V (four LR6 AA-size alkaline batteries) External: DC 12 V	External: DC 7 V
Battery life (at 25 °C (77 °F), with Sony LR6 AA-size alkaline batteries)	Approx. 5 hours	
Current (power) consumption	Batteries: approx. 230 mA at DC 6 V External: approx. 135 mA at DC 12 V	200 mA or less at external DC 7 V
Dimensions (W x H x D)	89.0 x 120.0 x 29.5 mm (3 5/8 x 4 3/4 x 1 3/16 inches)	88.0 x 119.0 x 31.3 mm (3 1/2 x 4 3/4 x 1 1/4 inches)
Mass	Approx. 400 g (14.1 oz) including batteries	Approx. 280 g (10.0 oz)
Supplied accessories	Attachment case (x1), Mounting plate for use with optional A-8278-057-B mounting bracket (x1), Antennas (1 pair), Output cables (x2), DC cable (x1), Operating instructions (x1)	Antennas (1 pair), Operating instructions (x1)

	MB-8N	MB-X6
Receiving channels	4 channels when accommodating 4 WRU-8N tuner modules	6 channels when accommodating 6 WRU-806B tuner modules
Receiving frequency range	566 MHz to 806 MHz (USA type) 758 MHz to 862 MHz (AU type)	798 MHz to 822 MHz
Audio output level deviation	-20 dBm (LINE)/-58 dBm (MIC) at reference deviation	-20 dBu (LINE)/-58dBu (MIC) at reference deviation
Audio output connector	XLR-3-32 type (4), balanced D-sub 15-pin (1) for sub output, female, unbalanced	XLR-3-32 (7), balanced
Antenna attenuator level	0 dB, 5 dB, 10 dB or 15 dB	0 dB or 10 dB
Antenna connector	Inputs: BNC-R type (x2), 50 Ω ((nominal) Outputs (for cascade connection): BNC-R type (2), 50 Ω (nominal)	Inputs: BNC-R type (2), 50 Ω (nominal)
Monitor output level	5 mW or more (24 to 45 µΩ load)	
Monitor output connector	6.3 mm dia, stereo mini-jack (1)	
Network connector	RJ-45 (1), 10BASE-T	
Operating voltage	AC 120 V, 50/60 Hz	AC 230 V, 50/60 Hz
Current (power) consumption	50 W when accommodating four WRU-8N tuner modules	30 W when accommodating six WRU-806B tuner modules
Dimensions (W x H x D)	482 x 44 x 300 mm (19 x 1 3/4 x 11 7/8 inches)	482 x 44 x 285 mm (19 x 1 3/4 x 11 7/8 inches)
Mass	Approx. 3.7 kg (8 lb 6 oz)	Approx. 5.5 kg (12 lb 2 oz)
Supplied accessories	AC power cord (x1), Antennas (1 pair), CD-ROM (contains operating instructions and MB-8N supplied software) (x1)	AC power cord (x1), Antennas (1 pair), Operating instructions (x1)

	WRU-8N	WRU-806B
Receiving channels	1 channel	1 channel
Receiving frequency range	798 MHz to 822 MHz (62CE7) 838 MHz to 862 MHz (67CE7)	798 MHz to 822 MHz (62CE7) 838 MHz to 862 MHz (67CE7)
Local oscillators	PLL synthesiser	1st: PLL synthesiser, 2nd: Crystal oscillator
De-emphasis	50 µs	50 µs
Reference deviation	±5 kHz deviation at 1 kHz modulation (Maximum deviation: ±40 kHz deviation at 1 kHz modulation)	±5 kHz deviation at 1 kHz modulation (Maximum deviation: ±40 kHz deviation at 1kHz modulation)
Selectivity	60 dB or more at ±250 kHz	60 dB or more at ±250 kHz
Frequency range	40Hz to 20kHz (typical)	70 Hz to 18 kHz (typical)
Signal-to-noise ratio	60 dB or more (65 dB typical) at 60 dBµ RF input at reference deviation, A-weighted	60 dB or more at 60 dBµ RF input at reference deviation, A-weighted
RF muting (squelch) level	10 dBµ, 20 dBµ,30 dBµ or off	30 dBµ
Operating voltage	DC 5 V (supplied from MB-8N)	DC 9 V (supplied from MB-X6)
Current (power) consumption	260 mA or less	225 mA or less
Dimensions (W x H x D)	56.0 x 30.7 x 149.0 mm (2 1/4 x 1 1/4 x 5 7/8 inches)	57 x 26 x 122 mm (2 1/4 x 1 1/16 x 4 7/8 inches)
Mass	Approx. 165 g (5.8 oz)	Approx. 160 g (5.7 oz)
Supplied accessories		Operating instructions (x1)

	WD-850A
Frequency range	758 MHz to 862 MHz
Channel distribution	Inputs: 2 pairs Outputs: 4 pairs
Input/output impedance	50 Ω
Cascade output	1 pair
Power supply for antenna booster (supplied from antenna input connectors)	DC 9 V/OFF switchable
Power consumption	16 W
Dimensions (W x H x D)	482 x 44 x 300 mm (19 x 1 3/4 x 11 7/8 inches)
Mass	Approx. 4.6 kg (10 lb 2 oz)
Supplied accessories	50 Ω BNC terminators (6)
RF muting (squelch) level	5 dBμ, 10 dBμ, 15 dBμ or OFF
Audio output level	-58 dBm at reference deviation
Audio output connector	SMC9-4S (Sony 4-pin) (2), balanced

	AN-820A
Frequency range	758 MHz to 862 MHz
Antenna gain	More than 10 dB
Output impedance	50 Ω
Voltage standing-wave ratio	Less than 3
Noise figure	Less than 6 dB
Third intermodulation	More than 60 dB (at 95 dBμ output)
Dimensions (W x H x D)	482 x 44 x 300 mm (19 x 1 3/4 x 11 7/8 inches)
Output connector	BNC-R type
Supply voltage	DC 9 V
Current consumption	Less than 35 mA
Dimensions (W x H x D)	70 x 117 x 132 mm (2 7/8 x 4 5/8 x 5 1/4 inches)
Mass	Approx. 250 g (9 oz)
Supplied accessories	Attachment A (1), Attachment B (1), Microphone stand screw (1), Microphone stand screw adapter (PF 1/2 to NS 5/8) (1), Fixing screws (1 set)

UWP Wireless Microphone Product Range

The Sony UWP Series UHF Wireless Microphone Package, introduced in 2003, set a milestone in the history of wireless microphone systems with its uncompromised ease-of-operation. It brought a number of significant benefits to wireless applications, including highly stable audio reception by utilising a space diversity reception system and proven interference-free multi-channel operation. Since its introduction, the UWP Series has been widely adopted around the world for a variety of applications such as news gathering, interviewing, professional video production, entertainment, live events and conferences to name just a few.

Now, Sony has further evolved the UWP Series by introducing five new packages – the UWP-V1, UWP-V2, UWP-V6, UWP-X7 and UWP-X8 – for a much higher level of stability, mobility, robustness and operational convenience. Each package comes with both a transmitter and a receiver, allowing you to get up and running straight from the box.

Common Features

Compact, Lightweight and Robust Design

All components of the UWP Series – the bodypack transmitter, handheld microphone, plug-on transmitter, portable receiver and tuner module – utilise an extremely robust metal chassis which is ideal for heavy-duty wireless operations. The metal body also allows for an extremely compact and lightweight design, providing the high level of mobility required for ENG and EFP operations. What's more, the black body complements Sony's professional camcorders extremely well.

Stable Transmission and Reception

The UWP Series Wireless Microphone Package uses three core technologies to provide stable transmission and reception:

>PLL Synthesised System

The UWP Series employs a UHF PLL (Phase Locked Loop) frequency synthesised system, which provides a stable carrier signal that helps to avoid interference with other frequency channels and allows for easy access to multiple frequencies. The PLL-controlled system provides highly stable, user-selectable frequencies in increments of 125kHz. Users can choose from 189 frequencies.

>Space Diversity Reception System

Typically, wireless microphone transmission systems can be subject to interruptions in reception (signal dropout), but the UWP Series reduces this to a minimum. Utilising a space diversity reception system, it achieves stable reception by using dual-antenna inputs/reception circuits. These receive signals over two different paths and automatically select the stronger RF signal for output. The angle of the antennas on the portable receiver can also be adjusted, which helps to further eliminate signal dropout.

>Tone Squelch Circuitry

The UWP Series transmitters transmit a 32kHz pilot-tone signal along with the audio signal. The tuner's squelch circuit recognises this tone signal and outputs the audio signal only when this tone signal is received. This function virtually prevents the output of unwanted signals and noise from other signal transmissions in the air, as well as the RF noise and popping noise that occur when the transmitter is powered on or off.

Pre-programmed Operating Frequencies

The transmitters and tuners included in the UWP Series incorporate groups of intermodulation-free pre-programmed frequencies that have been carefully calculated and practically tested. By selecting from these pre-programmed frequency groups, users can quickly and easily operate up to 16 wireless microphones simultaneously.

Auto-channel Scanning Function

The URX-P2 portable receiver and URX-M2 tuner module provide a convenient auto-channel scanning function that allows for fast, easy and safe frequency channel changes. These models automatically detect unoccupied channels, allowing operators easily to select the most appropriate channel to use.

UWP-V1

UHF Wireless Microphone Package

Consists of UTX-B2 bodypack transmitter
and URX-P2 portable receiver

UTX-B2 bodypack transmitter

> Extremely compact, lightweight and robust metal body
> Switchable MIC/LINE input level and adjustable attenuator (0 to 21dB, 3dB steps)
> Supplied omni-directional lavalier microphone utilises a newly developed miniature metal body

URX-P2 portable receiver

> Compact, lightweight and robust metal body – well-suited for use with Sony's professional camcorders
> Convenient auto-channel scanning function, allowing automatic search for unoccupied channels

Supplied accessories

> UTX-B2: Omni-directional lavalier microphone (x1), windscreen (x3), microphone holder clip (x1), belt clip (x1)
> URX-P2: Shoe-mount adapter (x1), belt clip (x1), cables (3-pole locking mini-plug/XLR type and 3-pole locking mini-plug/stereo mini-plug) (x1 each)

UWP-V2

UHF Wireless Microphone Package

Consists of UTX-H2 handheld microphone
and URX-P2 portable receiver

UTX-H2 handheld microphone

> Incorporates a uni-directional dynamic microphone capsule with minimised popping and wind noise

URX-P2 portable receiver

> Compact, lightweight and robust metal body – well-suited for use with Sony's professional camcorders
> Convenient auto-channel scanning function, allowing automatic search for unoccupied channels

Supplied accessories

> UTX-H2: Microphone holder (x1)
> URX-P2: Shoe-mount adapter (x1), belt clip (x1), cables (3-pole locking mini-plug/XLR type and 3-pole locking mini-plug/stereo mini-plug) (x1 each)

UWP-V6

UHF Wireless Microphone Package

Consists of UTX-B2 bodypack transmitter, UTX-P1 plug-on transmitter and URX-P2 portable receiver

UTX-B2 bodypack transmitter

> Extremely compact, lightweight and robust metal body
> Switchable MIC/LINE input level and adjustable attenuator (0 to 21dB, 3dB steps)
> Supplied omni-directional lavalier microphone utilises a newly developed miniature metal body

UTX-P1 plug-on transmitter

> Converts a wired microphone to a wireless microphone via an XLR-type connector

URX-P2 portable receiver

> Compact, lightweight and robust metal body – well-suited for use with Sony's professional camcorders
> Convenient auto-channel scanning function, allowing automatic search for unoccupied channels

Supplied accessories

> UTX-B2: Omni-directional lavalier microphone (x1), windscreen (x3), microphone holder clip (x1), belt clip (x1)
> UTX-P1: Soft case (x1)
> URX-P2: Shoe-mount adapter (x1), belt clip (x1), cables (3-pole locking mini-plug/XLR type and 3-pole locking mini-plug/stereo mini-plug) (x1 each)

PMW-EX1

UWP-X7

UHF Wireless Microphone Package

Consists of UTX-B2 bodypack transmitter and URX-M2 tuner module

UTX-B2 bodypack transmitter

> Extremely compact, lightweight and robust metal body
> Switchable MIC/LINE input level and adjustable attenuator (0 to 21dB, 3dB steps)
> Comes with a uni-directional lavalier microphone

URX-M2 tuner module

> Installed into the MB-X6 tuner unit or the SRP-X500P/X700P all-in-one type presentation mixer/amplifier
> Convenient auto-channel scanning function, allowing automatic search for unoccupied channels

Supplied accessories

> UTX-B2: Uni-directional lavalier microphone (x1), windscreen (x1), microphone holder clip (x1), belt clip (x1)

UWP-X8

UHF Wireless Microphone Package

Consists of UTX-H2 handheld microphone and URX-M2 tuner module

UTX-H2 handheld microphone

> Incorporates a uni-directional dynamic microphone capsule with minimised popping and wind noise

URX-M2 tuner module

> Installed into the MB-X6 tuner unit or the SRP-X500P/X700P all-in-one type presentation mixer/amplifier
> Convenient auto-channel scanning function, allowing automatic search for unoccupied channels

Supplied accessories

> UTX-H2 Microphone holder (x1)

UTX-P1

Plug-on Transmitter

- Converts a wired microphone to a wireless microphone via an XLR connector
- Compact, lightweight and robust metal body, providing great balance when handling
- Switchable MIC/LINE input level
- 50 mW RF output power for stable and long distance transmission
- Attenuator function allows adjustment of the microphone input level: 0 to 21dB, 3dB steps
- Durable connecting mechanism with a microphone for dependable operation
- Backlit LCD with an extensive information display: Operating channel number and its frequency in MHz, attenuator level, audio input status, RF output status, transmitter battery status and accumulated operating time
- Approximately six hours of continuous operation with two AA-size alkaline (LR6) batteries (at 25 °C (77 °F) at 50 mW output power)
- Supplied with a soft case

UTX-B2

Bodypack Transmitter

- Extremely compact, lightweight and robust metal body
- 63 x 82.5 x 18.7 mm (2 1/2 x 3 1/4 x 3/4 inches) excluding the antennas
- Approx. 145 g (5.1 oz) including batteries
- Switchable MIC/LINE input level and adjustable attenuator: 0 to 21dB, 3dB steps
- Selectable RF output power: 5 mW for multi-channel operations or 30 mW for long distance transmission
- Backlit LCD with an extensive information display. Operating channel number and its frequency in MHz, attenuator level, RF output level setting (High/Low), audio input status, RF output status, transmitter battery status and accumulated operating time
- Approximately eight hours of continuous operation with two AA-size alkaline (LR6) batteries (at 25 °C (77 °F) at 30 mW output power)
- Equipped with a 3-pole mini-jack connector with lock mechanism
- UTX-B2V: Comes with a newly-developed miniature metal body omni-directional lavalier microphone (Ø 6.8 mm)
- Clear and crisp sound pick-up with minimised popping and wind noise
- 1.2 m (3.9 feet) microphone cable

- Supplied with a microphone windscreen (x3), microphone holder clip and belt clip
- UTX-B2X: Comes with a uni-directional lavalier microphone (Ø11.5 mm)
- 1.2 m (3.9 feet) microphone cable
- Supplied with a microphone windscreen (x1), microphone holder clip and belt clip
- Supplied battery cartridge is compatible with those of URX-P2 and Sony's WL-800 Series, allowing quick and easy battery exchange between these models

UTX-H2

Handheld Microphone

- Compact, lightweight and robust metal body
- Ø 49 x 253 mm (1 15/16 x 10 inches)
- Approx. 308 g (11 oz) including batteries
- Incorporates a uni-directional dynamic microphone capsule that minimises popping and wind noise
- Selectable RF output power: 5 mW for multi-channel operations or 30 mW for long distance transmission
- Attenuator function allows adjustment of audio input level to suit each user's voice: 0 to 21dB, 3dB steps
- Internal LCD with an extensive information display: Operating channel number and its frequency in MHz, attenuator level, RF output level setting (High/Low), audio input status, RF output status, transmitter battery status and accumulated operating time
- Approximately eight hours of continuous operation with two AA-size alkaline (LR6) batteries (at 25 °C (77 °F) at 30 mW output power)
- Supplied with a microphone holder

Optional Accessories

MB-X6
Tuner Base Unit (for UWP-X Series and WRU-806B)

SRP-X100
Rack-mount Audio Mixer

SRP-X500P
Digital Powered Mixer (for UWP-X Series and WRU-806B)

SRP-X700P
Digital Powered Mixer (for UWP-X Series and WRU-806B)

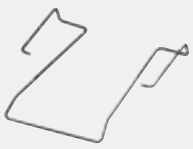
ECM-77BMP
Lavalier Microphone

ECM-44BMP
Lavalier Microphone

ECM-166BMP
Lavalier Microphone

ECM-322BMP
Lavalier Microphone

AN-820A
UHF Antenna



BLC-BP2
Spring Clip x2

SMAD-P2
Camera Mount Adaptor x1

BATC-2AA
Battery Carrier/Case x1

EC-0.46BX
Output Cable x1

EC-0.8BM
Output Cable x1

EC-1.5BX
Input Cable x1

AD-RV1B
Windshield Pack x12

AD-RX7B
Windshield Pack x6

SAD-HV1B
Microphone Clip Pack x4

ECM-V1BMP
(Omni) x1

ECM-X7BMP
(Cardioid) x1

/ Wireless Microphone Tuner/Wired Microphone and Camcorder Combinations

CAMCORDERS					Applicable Shotgun Microphone (Stereo/Mono)	Applicable Shotgun Microphone (Mono)
MODEL NAME	Camcorder Interface for Microphone					
	Built-in Wireless Slot	DC Output for Wireless Tuner	Front Mic Input Connector	Rear Mic/Line Input Connector		
HDCAM Camcorders						
HDW-F900R HDW-790P	Yes	Yes	XLR-5-pin x1	XLR-3-pin x2*3	ECM-680S	ECM-678 Requires XLR-3P XLR-5P Cable(K-1502)
HDW-730S	Yes	Yes	XLR-3-pin x1	XLR-3-pin x2	ECM-680S Requires XLR-5P XLR-3P(2) Cable (K-1504)	ECM-678
HDW-650P	Yes	Yes	XLR-5-pin x1	XLR-3-pin x2	ECM-680S	ECM-678
Digital Betacam Camcorder						
DVW-970P	Yes	Yes	XLR-3-pin x1	XLR-3-pin x2	ECM-680S Requires XLR-5P XLR-3P(2) Cable (K-1504)	ECM-678
MPEG IMX Camcorder						
MSW-970P	Yes	Yes	XLR-3-pin x1	XLR-3-pin x2	ECM-680S Requires XLR-5P XLR-3P(2) Cable (K-1504)	ECM-678
XDCAM Camcorders						
PDW-510P PDW-530P	Yes	Yes	XLR-3-pin x1	XLR-3-pin x2*3	ECM-680S Requires XLR-5P XLR-3P(2) Cable (K-1504)	ECM-678 ECM-674*1 ECM-673
XDCAM HD Camcorders						
PDW-F355L PDW-F335L/K	No	Yes	XLR-5-pin x1	XLR-3-pin x2	ECM-680S	ECM-678 ECM-674*1 ECM-673 Requires XLR-3P - XLR-5P Cable(K-1502)
PDW-700	Yes	Yes	XLR-5-pin x1	XLR-3-pin x2*3	ECM-680S	ECM-678 ECM-674*1 ECM-673 Requires XLR-3P - XLR-5P Cable(K-1502)
DVCAM Camcorders						
DSR-400P DSR-450WSP	No	Yes	XLR-3-pin x1	XLR-3-pin x2	ECM-680S Requires XLR-5P XLR-3P(2) Cable (K-1504)	ECM-674*1 ECM-673
HDV Camcorder						
HVR-S270E	No	Yes	XLR-3-pin x2	XLR-3-pin x2	ECM-680S Requires XLR-5P XLR-3P(2) Cable (K-1504)	ECM-678 ECM-674*1 ECM-673

*1 The ECM-674 can be driven by external DC power (40 to 52V) or battery (AA-size).
*2 Recommend to use the BTA-801 or DWA-01D when using with 3rd party battery.
*3 AES/EBU input can be selected for digital connection.

APPLICABLE ANALOGUE TUNER			APPLICABLE DIGITAL TUNER	
WRR-855S (1 ch) for Slot-in	**WRR-855S (1 ch) for Mounting on Rear Position**	**WRR-862B (2 ch)**	**Digital (2 ch) for Slot-in**	**Digital (2 ch) for Mounting on Rear Position**
Direct slot-in	Requires A-8278-057-B Mount Bracket and BTA-801or DWA-01D	Requires A-8278-057-B Mount Bracket		Requires A-8278-057-B Mount Bracket and DWA-01D: Max 1 unit
Direct slot-in	Requires A-8278-057-B Mount Bracket and BTA-801or DWA-01D	Requires A-8278-057-B Mount Bracket		Requires A-8278-057-B Mount Bracket and DWA-01D: Max 1 unit
Direct slot-in	Requires A-8278-057-B Mount Bracket and BTA-801or DWA-01D	Requires A-8278-057-B Mount Bracket	Direct slot-in	Requires A-8278-057-B Mount Bracket and DWA-01D: Max 1 unit
Direct slot-in	Requires A-8278-057-B Mount Bracket and BTA-801or DWA-01D	Requires A-8278-057-B Mount Bracket		Requires A-8278-057-B Mount Bracket and DWA-01D: Max 1 unit
Direct slot-in	Requires A-8278-057-B Mount Bracket and BTA-801or DWA-01D	Requires A-8278-057-B Mount Bracket		Requires A-8278-057-B Mount Bracket and DWA-01D: Max 1 unit
Direct slot-in	Requires A-8278-057-B Mount Bracket and BTA-801or DWA-01D	Requires A-8278-057-B Mount Bracket		Requires A-8278-057-B Mount Bracket and DWA-01D: Max 1 unit
Requires CA-WR855 Mount Adaptor *2	Requires A-8278-057-B Mount Bracket and BTA-801or DWA-01D	Requires A-8278-057-B Mount Bracket		Requires A-8278-057-B Mount Bracket and DWA-01D: Max 1 unit
Direct slot-in	Requires A-8278-057-B Mount Bracket and BTA-801or DWA-01D	Requires A-8278-057-B Mount Bracket	Direct slot-in	Requires A-8278-057-B Mount Bracket and DWA-01D: Max 1 unit
Requires CA-WR855 Mount Adaptor *2	Requires A-8278-057-B Mount Bracket and BTA-801or DWA-01D	Requires A-8278-057-B Mount Bracket		Requires A-8278-057-B Mount Bracket and DWA-01D: Max 1 unit
	Requires A-8278-057-B Mount Bracket and BTA-801or DWA-01D	Requires A-8278-057-B Mount Bracket		Requires A-8278-057-B Mount Bracket and DWA-01D: Max 1 unit

/ Wireless Microphone Tuner/Wired Microphone and Camcorder Combinations (with Current UWP & New UWP)

CAMCORDERS					Applicable Shotgun Micro-phone (Stereo/ Mono)	Applicable Shotgun Micro-phone (Mono)	APPLICABLE WIRELESS TUNER		
MODEL NAME	Camcorder Interface for Microphone						UWP-V1	UWP-V2	UWP-V6
	Built-in Wireless Slot	DC Output for Wireless Tuner	Front	Rear					
			Mic Input Connector	Mic/Line Input Connector					
XDCAM EX Camcorders									
PMW-EX1/EX3	No	No	XLR-3-pin x1		ECM-680S Requires XLR-5P XLR-3P(2) Cable	ECM-673 ECM-678			
HDV Camcorders									
HVR-S270E	No	Yes	XLR-3-pin x1	XLR-3-pin x2	ECM-680S Requires XLR-5P XLR-3P(2) Cable	ECM-673 ECM-674*1 ECM-678			
HVR-Z7E	No	No	XLR-3-pin x2		ECM-680S Requires XLR-5P XLR-3P(2) Cable	ECM-673 ECM-674*1 ECM-678			
HVR-Z5E	No	No	XLR-3-pin x2		ECM-680S Requires XLR-5P XLR-3P(2) Cable	ECM-673 ECM-674*1 ECM-678			
HVR-V1E	No	No	XLR-3-pin x2		ECM-680S Requires XLR-5P XLR-3P(2) Cable	ECM-673			
HVR-A1E	No	No	XLR-3-pin x2		ECM-680S Requires XLR-5P XLR-3P(2) Cable	ECM-673			
HVR-HD1000E	No	No	Stereo mini-jack x1						
DVCAM Camcorder									
DSR-PD170P	No	No	XLR-3-pin x1		ECM-680S Requires XLR-5P XLR-3P(2) Cable	ECM-673 ECM-674 *1			

*1 : The ECM-674 can be driven by external DC power (40 to 52V) or battery (AA-size).

Specifications

		UTX-B2	UTX-H2	UTX-P1
Oscillator		Crystal-controlled PLL Synthesiser		
Type of emission		F3E		
Carrier frequencies	CE62	798 MHz to 822 MHz (TV 62 to 64 channels), selectable from 189 frequencies (in 125 kHz steps)/960 frequencies (in 25 kHz steps)		
	CE67	838MHz to 862MHz (TV 67 to 69 channels), selectable from 189 frequencies (in 125 kHz steps)/960 frequencies (in 25 kHz steps)		
RF power output		30 mW/5 mW (selectable)		50 mW
Antenna		1/4 wave length wire	1/4 wave length wire (internal)	Integral type
Pilot-tone signal		32kHz		
Frequency response		40 Hz to 18 kHz (typical)	50 Hz to 18 kHz (typical)	
Reference deviation		±7 kHz (-60 dBV, 1 kHz input)	±7 kHz (94 dB SPL, 1 kHz input)	±10 kHz (-60 dBV, 1 kHz input)
Signal-to-noise ratio		60 dB or more (±7 kHz deviation at 1 kHz modulation, A-weighted)		60dB or more (±10 kHz deviation at 1 kHz modulation,
Microphone capsule		Electret condenser, omni-directional (UTX-B2V) Electret condenser, uni-directional (UTX-B2X)	Dynamic, uni-directional	
Audio attenuator adjustment range		0 dB to 21 dB (in 3 dB steps): Mic input	0 dB to 21 dB (in 3 dB steps)	0 dB to 21 dB (in 3 dB steps): Mic input
Audio input level		MIC: -60 dBV (at 0 dB attenuator level) LINE: +4 dBu		MIC: -60 dBV (at 0 dB attenuator level) LINE: +4 dBu
Audio input connector		3-pole mini-jack		XLR-3-11C type
Max. input sound pressure level			151dB SPL (at 21dB attenuator level)	
Indicators	LCD	Operating channel number/ frequency, attenuator level, RF output level (High/Low), audio input status, transmitter battery status and accumulated operating time		Operating channel number/ frequency, attenuator level, audio input status, RF output status, transmitter battery status and accumulated operating time
	LCD	Audio input status	Power status	Audio input status
Power requirements		DC 3.0 V (with two AA-size alkaline (LR6) batteries)		
Battery life		Approx. eight hours with Sony's AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 30 mW output		Approx. six hours with Sony's AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 50 mW output
Dimensions (W x H x D)		63 × 82.5 × 18.7 mm (2 1/2 × 3 1/4 × 3/4 inches) excluding the antennas	Ø 49 x 253 mm (Ø 1 15/16 × 10 inches)	44 x 99 x 36 mm (1 3/4 x 4 x 1 7/16 inches)
Mass		Approx. 145 g (5.1 oz), including batteries	Approx. 308 g (11 oz), including batteries	Approx. 185 g (6.5 oz), including batteries
Supplied accessories		UTX-B2V: Omni-directional lavalier microphone, Windscreen (x3), Microphone holder clip (x1), Belt clip (x1), Operating instructions (x1) UTX-B2X: Uni-directional Lavalier microphone (x1), Windscreen (x1), Micro-Phone holder clip (x1), Belt clip	Microphone holder (x1), Operating instructions (x1)	Soft case (x1), Operating instructions (x1)

		URX-P2	URX-M2
Oscillator		Crystal controlled PLL synthesiser	
Type of reception		Space diversity	
Receiving frequencies	CE62	798 MHz to 822 MHz (TV 62 to 64 channels), selectable from 189 frequencies (in 125 kHz steps)/960 frequencies (in 25kHz steps)	838 MHz to 862 MHz (TV 67 to 69 channels), selectable from 189 frequencies (in 125 kHz steps)/960 frequencies (in 25 kHz steps)
	CE67		
Antenna		1/4 wave length wire	
Pilot-tone signal		32 kHz	
RF squelch level		15 dBμ	25 dBμ
Frequency response		40 Hz to 18 kHz (typical)	
Reference deviation		±5 kHz (at 1 kHz modulation)	
Signal-to-noise ratio		60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)	
Audio output connector		3-pole mini-jack, unbalanced	
Audio output level		-58 dBm	
Monitor output connector		3.5 mm (5/32 inch) dia., stereo mini-jack	
Monitor output level Indicators		5 mW (at 16 Ω)	
LCD		Operating channel number/frequency, audio output status, RF input level, tuner battery status and accumulated operating time	Operating channel number/frequency, audio output status, RF input level
LED		RF input status	
Power requirements		DC 3.0 V (with two AA-size alkaline (LR6) batteries)	DC 9.0 V
Battery life		Approx. six hours with Sony's AA-size alkaline (LR6) batteries at 25 °C (77 °F)	
Dimensions (W x H x D)		63 x 104.5 x 22 mm (2 1/2 x 4 1/8 x 7/8 inches), excluding the antennas	57 x 26 x 121 mm (2 1/4 x 1 1/16 x 4 7/8 inches)
Mass		Approx. 205 g (7.2 oz), including batteries	Approx. 150 g (5.3 oz)
Supplied accessories		Shoe-mount adapter (x1), Belt clip (x1), Output cable (x1 each, 3-pole locking mini-plug/XLR-type, 3-pole locking mini-plug/stereo mini-plug), Operating instructions (x1)	Operating instructions (x1)